Environmental Protection Agency

§86.225-94 [Reserved]

§ 86.226-94 Calibration of other equipment.

The provisions of \$86.126 apply to this subpart.

§86.227-94 Test procedures; overview.

The provisions of \$86.127-94 (a), (b), and (e) apply to this subpart.

§86.228-94 Transmissions.

The provisions of §86.128-79 apply to this subpart.

§ 86.229-94 Road load force, test weight, and inertia weight class determination.

(a) Flywheels, electrical forces, or other means of simulating test weight as shown in the table in this paragraph shall be used. If the equivalent test weight specified is not available on the dynamometer being used, the next higher equivalent test weight (not to exceed 250 pounds) available shall be used. Light-duty vehicles over 5750 lbs. loaded vehicle weight shall be tested at a 5,500 lb. equivalent test weight.

1,063-1,187 1,125 1,000 1,188-1,312 1,250 1,250 1,313-1,437 1,375 1,250 1,438-1,562 1,500 1,500 1,563-1,687 1,625 1,500 1,688-1,812 1,750 1,750 1,813-1,937 1,875 1,750 1,938-2,062 2,000 2,000 2,063-2,187 2,125 2,000 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,500 3,563-3,687 3,625 3,500 3,683-3,812 3,750 3,500 3,683-3,812 3,750 3,500 3,683-3,812 3,750 <			
1,063-1,187 1,125 1,000 1,188-1,312 1,250 1,250 1,313-1,437 1,375 1,250 1,438-1,562 1,500 1,500 1,563-1,687 1,625 1,500 1,688-1,812 1,750 1,750 1,813-1,937 1,875 1,750 1,938-2,062 2,000 2,000 2,063-2,187 2,125 2,200 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,583-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,683-3,687 3,625 3,500 3,683-3,812 3,750 3,500 3,683-3,812 3,750 3,500 3,684-3,812 3,750 <	Loaded vehicle weight (pounds)	test weight	weight class
1,063-1,187 1,125 1,000 1,188-1,312 1,250 1,250 1,313-1,437 1,375 1,250 1,563-1,687 1,500 1,500 1,688-1,812 1,750 1,750 1,813-1,937 1,875 1,750 1,813-1,937 1,875 1,750 1,813-2,187 2,000 2,000 2,063-2,187 2,125 2,000 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,500 3,563-3,687 3,625 3,500 3,683-3,812 3,750 3,500 3,683-3,812 3,750 3,500 3,813-3,937 3,875 <	Up-1.062	1.000	1.000
1,188-1,312 1,250 1,250 1,313-1,437 1,375 1,250 1,438-1,562 1,500 1,500 1,563-1,687 1,625 1,500 1,688-1,812 1,750 1,750 1,813-1,937 1,875 1,750 1,938-2,062 2,000 2,000 2,063-2,187 2,125 2,000 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,543-2,662 2,500 2,500 2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,688-2,812 2,750 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,438-3,562 3,500 3,500 3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 <		1.125	1,000
1,313-1,437 1,375 1,250 1,438-1,562 1,500 1,500 1,683-1,687 1,625 1,500 1,688-1,812 1,750 1,750 1,813-1,937 1,875 1,750 1,938-2,062 2,000 2,000 2,063-2,187 2,125 2,200 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,438-2,562 2,500 2,500 2,568-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,318-3,312 3,250 3,500 3,438-3,562 3,500 3,500 3,663-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,264-4,875 4,500 <	1,188–1,312		1,250
1,438-1,562 1,500 1,500 1,683-1,687 1,625 1,500 1,688-1,812 1,750 1,750 1,813-1,937 1,875 1,750 1,938-2,062 2,000 2,000 2,063-2,187 2,125 2,000 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,250 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,438-3,562 3,500 3,500 3,683-3,812 3,750 3,500 3,683-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,126-4,375 4,250 4,500 4,876-4,625 4,500 <	1,313-1,437	1,375	1,250
1,688-1,812 1,750 1,750 1,813-1,937 1,875 1,750 1,938-2,062 2,000 2,000 2,063-2,187 2,125 2,000 2,187 2,250 2,250 2,313-2,437 2,375 2,250 2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,500 3,438-3,562 3,500 3,500 3,663-3,687 3,625 3,500 3,688-3,812 3,650 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,264-4,875 4,500 4,500 4,626-4,875 4,500 4,500 4,626-4,875 5,500 5,500 5,376-5,750 5,500 5,5		1,500	1,500
1,813-1,937 1,875 1,750 1,938-2,062 2,000 2,000 2,063-2,187 2,125 2,000 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,438-2,562 2,500 2,500 2,563-2,687 2,625 2,500 2,813-2,937 2,875 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,438-3,562 3,500 3,500 3,663-3,687 3,625 3,500 3,683-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,126-4,375 4,250 4,000 4,876-4,625 4,500 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,751-6,250 6,000 <	1,563-1,687	1,625	1,500
1,938-2,062 2,000 2,000 2,063-2,187 2,125 2,000 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,438-2,562 2,500 2,500 2,683-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,438-3,562 3,500 3,500 3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,126-4,375 4,250 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,751-6,250 6,000 6,000	1,688-1,812	1,750	1,750
2,063-2,187 2,125 2,000 2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,438-2,562 2,500 2,500 2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,813-2,937 2,875 2,750 3,063-3,187 3,000 3,000 3,083-3,062 3,000 3,000 3,188-3,312 3,250 3,000 3,183-3,437 3,375 3,500 3,663-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,500 4,500 4,626-4,875 4,500 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 <	1,813-1,937	1,875	1,750
2,188-2,312 2,250 2,250 2,313-2,437 2,375 2,250 2,438-2,562 2,500 2,500 2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,083-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,313-3,437 3,375 3,500 3,683-3,687 3,625 3,500 3,683-3,687 3,625 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,876-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,751-6,250 6,000 6,000	1,938–2,062	2,000	2,000
2,313-2,437 2,375 2,250 2,438-2,562 2,500 2,500 2,683-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,438-3,562 3,500 3,500 3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,938-4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,864-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,751-6,250 6,000 6,000	2,063-2,187	2,125	2,000
2,438-2,562 2,500 2,500 2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,438-3,562 3,500 3,500 3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,751-6,250 6,000 6,000	2,188-2,312	2,250	2,250
2,563-2,687 2,625 2,500 2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,083-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,313-3,437 3,375 3,500 3,683-3,687 3,625 3,500 3,683-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,876-4,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	2,313-2,437	2,375	2,250
2,688-2,812 2,750 2,750 2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,313-3,437 3,500 3,500 3,438-3,562 3,500 3,500 3,663-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,938-4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	2,438-2,562	2,500	2,500
2,813-2,937 2,875 2,750 2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,313-3,437 3,375 3,500 3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	2,563–2,687	2,625	2,500
2,938-3,062 3,000 3,000 3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,313-3,437 3,375 3,500 3,438-3,562 3,500 3,500 3,663-3,687 3,625 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	2,688–2,812	2,750	2,750
3,063-3,187 3,125 3,000 3,188-3,312 3,250 3,000 3,313-3,437 3,375 3,500 3,438-3,562 3,500 3,500 3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	2,813-2,937	2,875	2,750
3,188-3,312 3,250 3,000 3,313-3,437 3,375 3,500 3,438-3,562 3,500 3,500 3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,826-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000		3,000	3,000
3,313-3,437 3,375 3,500 3,438-3,562 3,500 3,500 3,663-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000		3,125	3,000
3,438-3,562 3,500 3,500 3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 3,938-4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,500 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	3,188-3,312	3,250	3,000
3,563-3,687 3,625 3,500 3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	3,313–3,437	3,375	3,500
3,688-3,812 3,750 3,500 3,813-3,937 3,875 4,000 4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000		3,500	3,500
3,813-3,937 3,875 4,000 3,938-4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	3,563-3,687	3,625	3,500
3,938-4,125 4,000 4,000 4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	3,688–3,812	3,750	3,500
4,126-4,375 4,250 4,000 4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000			4,000
4,376-4,625 4,500 4,500 4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	3,938-4,125	4,000	4,000
4,626-4,875 4,750 4,500 4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	4,126–4,375	4,250	4,000
4,876-5,125 5,000 5,000 5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	4,376–4,625		
5,126-5,375 5,250 5,000 5,376-5,750 5,500 5,500 5,751-6,250 6,000 6,000	4,626-4,875		4,500
5,376–5,750 5,500 5,500 5,751–6,250 6,000 6,000			5,000
5,751–6,250 6,000 6,000	5,126-5,375	5,250	5,000
			5,500
6,251-6,750 6,500 6,500			6,000
	6,251–6,750	6,500	6,500

Loaded vehicle weight (pounds)	Equivalent test weight (pounds)	Inertia weight class (pounds)
6,751–7,250	7,000	7,000
7,251-7,750	7,500	7,500
7,751-8,250	8,000	8,000
8,251-8,750	8,500	8,500
8,751-9,250	9,000	9,000
9,251-9,750	9,500	9,500
9,751–10,000	10,000	10,000

(b) A dynamometer which meets the specifications of §86.208–94(a) shall be adjusted to simulate the operation of a vehicle on the road at 20 °F (-7 °C). Such adjustment may be based on a determination of the road load force profile at 20 °F (-7 °C). Alternatively, the adjustment may be based on a 10 percent decrease in the target coastdown time that is used for FTP testing.

§86.230-11 Test sequence: general requirements.

- (a) Sequence steps. Figure C94-1 of §86.230-94 shows the steps encountered as the test vehicle undergoes the procedures subsequently described, to determine conformity with the standards set forth.
- (b) Driving schedule. The Urban Dynamometer Driving Schedule (UDDS) test procedure (see §86.115 and appendix I to this part) is used for vehicle preconditioning and testing.
- (c) Ambient temperature level. (1) Ambient temperature levels encountered by the test vehicle shall average $20^{\circ}\pm 5^{\circ}$ °F (-7° °C $\pm 2.8^{\circ}$ °C) and shall not be less than 10° F (-14° C) nor more than 30° F (-1° °C) during vehicle preconditioning, except for preconditioning performed in accordance with §86.232(a)(7), and during all emission testing.
- (2) The ambient temperature reported shall be a simple average of the test cell temperatures measured at constant intervals no more than one minute apart. Before the driving cycle may begin, the test cell temperature shall be 20 °F ± 3 °F (-7 °C ± 1.7 °C) when measured in accordance with paragraph (e)(2) of this section. The temperature may not exceed 25 °F (-4 °C) or fall below 15 °F (-9 °C) for more than three consecutive minutes during the test.
- (d) Vehicle positioning. The vehicle shall be approximately level during all